

L 48557-65 SWT(1) ZEC(m. EWA(h) 345
ACCESSION NR: AP5009789

VR/Q292/65/000/004/0024/0025

AUTHOR: Lidorenko, F. S. (Doctor of technical sciences, Professor); Molodtsov, I. S. (Candidate of technical sciences); Voronkov, S. M. (Candidate of technical sciences); Gurevich, M. A. (Engineer)

TITLE: Electrochemical transducers for vibration and weight measurements

SOURCE: Elektrotehnika, no. 4, 1965, 24-25

TOPIC TAGS: electronic component, vibration measurement, physics laboratory instrument

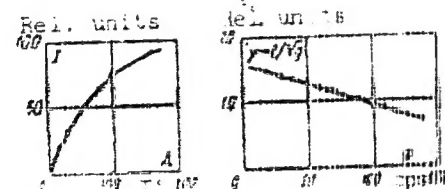
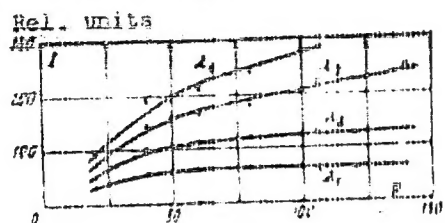
ABSTRACT: Vibration studies were conducted with the transducer fixed to the platform of an electrochemical cell. The diaphragm perpendicular to the direction of the vibrations. The cell afforded smooth control of vibration frequencies (20—250 cps) and amplitudes (5—200 μ).

The dependence of the output current on vibration frequency for various amplitudes is shown in Fig. 1a. With an increase in the vibration frequency, the output current also increases. For example, at 20 cps, the output current was 10 μ A, and at 250 cps, it was 100 μ A. The output current of the electrochemical transducer is proportional to the square of the vibration frequency.

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(transducer) was determined as the ratio of the output current to the square root of the load (in grams). The dependence of γ on ν is shown in Fig. 1c.



As is shown, the sensitivity drops linearly with increased vibration frequency. The attachment of small loads (up to 10g) to the diaphragm or pores ponding enlargement of the transducer chamber increases the sensitivity of the device 1.5--2.5 relative units per gram of additional mass.

a - Dependence of the transducer output current on the vibration frequency for a vibration amplitude $A_1 = 25 \mu$, $A_2 = 10 \mu$, $A_3 = 10 \mu$, $A_4 = 10 \mu$, $A_5 = 10 \mu$, $A_6 = 10 \mu$, $A_7 = 10 \mu$, $A_8 = 10 \mu$, $A_9 = 10 \mu$, $A_{10} = 10 \mu$, $A_{11} = 10 \mu$, $A_{12} = 10 \mu$, $A_{13} = 10 \mu$, $A_{14} = 10 \mu$, $A_{15} = 10 \mu$, $A_{16} = 10 \mu$, $A_{17} = 10 \mu$, $A_{18} = 10 \mu$, $A_{19} = 10 \mu$, $A_{20} = 10 \mu$, $A_{21} = 10 \mu$, $A_{22} = 10 \mu$, $A_{23} = 10 \mu$, $A_{24} = 10 \mu$, $A_{25} = 10 \mu$, $A_{26} = 10 \mu$, $A_{27} = 10 \mu$, $A_{28} = 10 \mu$, $A_{29} = 10 \mu$, $A_{30} = 10 \mu$, $A_{31} = 10 \mu$, $A_{32} = 10 \mu$, $A_{33} = 10 \mu$, $A_{34} = 10 \mu$, $A_{35} = 10 \mu$, $A_{36} = 10 \mu$, $A_{37} = 10 \mu$, $A_{38} = 10 \mu$, $A_{39} = 10 \mu$, $A_{40} = 10 \mu$, $A_{41} = 10 \mu$, $A_{42} = 10 \mu$, $A_{43} = 10 \mu$, $A_{44} = 10 \mu$, $A_{45} = 10 \mu$, $A_{46} = 10 \mu$, $A_{47} = 10 \mu$, $A_{48} = 10 \mu$, $A_{49} = 10 \mu$, $A_{50} = 10 \mu$, $A_{51} = 10 \mu$, $A_{52} = 10 \mu$, $A_{53} = 10 \mu$, $A_{54} = 10 \mu$, $A_{55} = 10 \mu$, $A_{56} = 10 \mu$, $A_{57} = 10 \mu$, $A_{58} = 10 \mu$, $A_{59} = 10 \mu$, $A_{60} = 10 \mu$, $A_{61} = 10 \mu$, $A_{62} = 10 \mu$, $A_{63} = 10 \mu$, $A_{64} = 10 \mu$, $A_{65} = 10 \mu$, $A_{66} = 10 \mu$, $A_{67} = 10 \mu$, $A_{68} = 10 \mu$, $A_{69} = 10 \mu$, $A_{70} = 10 \mu$, $A_{71} = 10 \mu$, $A_{72} = 10 \mu$, $A_{73} = 10 \mu$, $A_{74} = 10 \mu$, $A_{75} = 10 \mu$, $A_{76} = 10 \mu$, $A_{77} = 10 \mu$, $A_{78} = 10 \mu$, $A_{79} = 10 \mu$, $A_{80} = 10 \mu$, $A_{81} = 10 \mu$, $A_{82} = 10 \mu$, $A_{83} = 10 \mu$, $A_{84} = 10 \mu$, $A_{85} = 10 \mu$, $A_{86} = 10 \mu$, $A_{87} = 10 \mu$, $A_{88} = 10 \mu$, $A_{89} = 10 \mu$, $A_{90} = 10 \mu$, $A_{91} = 10 \mu$, $A_{92} = 10 \mu$, $A_{93} = 10 \mu$, $A_{94} = 10 \mu$, $A_{95} = 10 \mu$, $A_{96} = 10 \mu$, $A_{97} = 10 \mu$, $A_{98} = 10 \mu$, $A_{99} = 10 \mu$, $A_{100} = 10 \mu$.

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148557-15

ACCESSION NR: AP5009789

Electrochemical transducers for pressure measurement are of great practical interest because of their structural simplicity and high sensitivity. However, the use of such transducers for measurement of static pressure rather than to the pressure itself, and hence, response time of such transducers is limited to short intervals following instantaneous application of the load.

The ordinary electrochemical transducer of periodic signals reacts only to changes in pressure, i.e., it has a "memory" capacity.

Attempts are made to create a transducer which would provide the recovery time of the depolarized anode and provide a memory time, i.e., the time in which the transducer output current holds its maximum value.

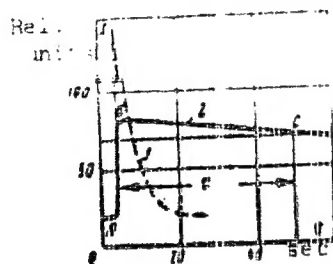


Fig. 2. Output current drop vs time

1 - Common electrochemical transducer; 2 - "memory" transducer.

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The voltage of the polarizing source and the resistance of the transducer anode were among the factors considered. However, reduction of the polarizing voltage and the addition of another resistor in the anode circuit of the ordinary cylindrical-cathode transducer resulted in an increase of memory time of only 0.7 sec. Accordingly, a special transducer was designed to reduce the rate of electrolyte flow through the main cathode chamber, develop a suitable cathode surface and lower correspondingly the cathode current density. The main cathode of the improved design is a tightly rolled grid firm-set in the channel opened at the transducer chambers. A characteristic oscillogram showing the drop in output current over time is given in Fig. 2 (curve 2). The section of the curve to the left of A characterizes the unloaded transducer; AB corresponds to the drop in output current at the moment of loading; and BC corresponds to the drop in current from the maximum. For comparison, curve 1 shows the drop in output current of the usual cylindrical-cathode transducer with a 700 mv volt-ampere characteristic and without an additional anode resistance. Fig. 2 shows the relationship between the memory time and the anode resistance for various values of the polarizing voltage. All experimental data refer to a 1-gm load and transducer sensitivity of about 20 μ amp/g. The values of the memory time obtained indicate the feasibility of using electrochemical transducers for measuring continuous signals. Orig. art. has 4 figures.

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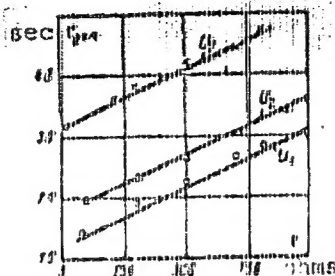


Fig. 3. The effect of anode resistance on the "memory" time of electrochemical transducers for various values of the polarizing voltage $U_1 = 600$ mv; $U_2 = 400$ mv; $U_3 = 200$ mv.

ASSOCIATION: none

SUBMITTED: 00

UNCL: 00

INT CODE: EC, CP

NO REF SOV: 002

OTHER: 000

WEB, 1, 1, 10. 6

Card 5/5

LIDORENKO, N.S., doktor tekhn.nauk, prof.; MOISEYEV, I.M., kand.tekhn.nauk;
VORONKOV, G.Ye., kand.tekhn.nauk; GUREVICH, M.A., inzh.; VOROB'Yeva,
A.O., inzh.

Electrochemical transducers for the reception of acoustical signals
and measurement of small displacements. Elektrotehnika 36 no.3:3-5
Mr '65. (MIRA 1886)

LIDORENKO, N.S., doktor tekhn. nauk, prof.; MOISEYEV, I.M., kand. tekhn.
nauk; VORONKOV, G.Ya., kand. tekhn. nauk; GUREVICH, M.A., inzh.

Electrochemical transducers for oscillation and weight measurements.
Elektrotehnika 36 no.4:24-25 Ap '65. (MIRA 18:5)

VORONKOV, G. Ya., kand. tekhn. nauk

Effect of chemical additives on the physicomachanical properties
of small peat blocks. Izv. vys. ucheb. zav.; gor. zhur. no.9:
44-47 '61. (MIRA 15:10)

1. Kalininskyy torfyanoy institut. Rekomendovana kafedroy
fiziki.

(Peat)

VOLAROVICH, M.P.; VORONKOV, G.Ya.

Electrokinetic properties of peat. Koll.shmr. 22 no.3:
301-304 My-Je '60. (MIRA 13:7)

1. Kalininskiy torfyanoy institut, Kafedra fiziki.
(Peat--Electric properties)

VoRONKOV G. Ya.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

35. E. N. Vekshin (Moscow): On the solution of the dynamic problem for a half-space under conditions of axial symmetry.
36. A. M. Belykh (Moscow): Anisotropic plates with discontinuous supports.
37. A. N. Belykh (Moscow): On the essential non-linearity of the dynamic problem in an elastic medium.
38. A. N. Belykh (Moscow): On the determination of the field of half-space under alternating random loads.
39. A. N. Belykh (Moscow): An experimental investigation of the stability of laminar flows.
40. A. N. Belykh (Moscow): On the stability of nonstationary flows of laminar flows.
41. A. N. Belykh (Moscow): The field of the stability of laminar flows.
42. A. N. Belykh (Moscow): The state of stress of laminar flows of regular configuration.
43. A. N. Belykh (Moscow): Microscopic properties of laminar flows of fluids possessing macroscopic properties.
44. A. N. Belykh (Moscow): Application of the theory of laminar flows to the investigation of shells.
45. A. N. Belykh (Moscow): Determination of stresses and deformations in laminar flows.
46. A. N. Belykh (Moscow): The flow of laminar and filled laminar flows.
47. A. N. Belykh (Moscow): Application of the theory of laminar flows to the investigation of shells.
48. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
49. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
50. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
51. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
52. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
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54. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
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63. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
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65. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
66. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.
67. A. N. Belykh (Moscow): Investigation of the behavior of anisotropically compressed short columns for long laminar flows.

VORONKOV, G. Ya. Cand Tech Sci -- "Study of the electrokinetic properties of peat."
Mos, 1960 (Min of Higher and Secondary Specialized Education RSFSR. Main Administration of Tech Engineering Higher Educational Institutions. Kalinin Peat Inst), (KL, 1-61, 192)

-184-

VORONKOV, G.Ya., inzh.

Effect of the addition of chemicals on the drying and the physical
and mechanical properties of peat. Torf. prom. 38 no. 3:12-14 '61.
(MIRA 14:4)

1. Kalininskiy torfyanoy institut.
(Peat)

ACC NR: AP6029786

SOURCE CODE: UR/0119/66/000/008/0005/0007

AUTHOR: Belevtsev, A. T. (Candidate of technical sciences); Voronkov, G. Ya. (Candidate of technical sciences); Lidorenko, N. S. (Corresponding member AN SSSR); Fedorin, V. A. (Engineer)

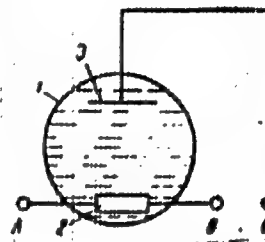
ORG: none

TITLE: Electrochemically-controlled resistor

SOURCE: Priborostroyeniye, no. 8, 1966, 5-7

TOPIC TAGS: resistor, electrochemically controlled resistor, *electrode design, electrolyte*

ABSTRACT: The electrochemically-controlled resistor consists of cell 1 (see figure) filled with an electrolyte and containing resistive electrode 2 and control metal electrode 3. D-c control signal is applied between one end of 2 and 3. Readout a-c signal appears between A and B. An



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UDC: 621.316.87

ACC NR: AP6029786

experimental model had an initial resistance of 150 ohms which could be brought down to 10 ohms in 7 sec. Plots of resistance vs. time and control current and hysteresis vs. control current are shown. The capacitance of the cell was 40 millicoulombs with a current of 2 ma and a resistance of 5-150 ohms. So far, the new device has hardly been practical: it cannot operate as a potentiometer; its hysteresis is too large; the resistance-hysteresis relation is nonlinear; only ac is suitable for readout; resistance variation rate is insufficient; the device survives only about 2000 cycles of operation. Orig. art. has: 7 figures and 1 formula.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 003

Card 2/2

L 36293-65

ACCESSION NR: AP5007530

UIN/0292/65/000/003/0003/0005

AUTHOR: Lidorenko, N. S. (Doctor of technical sciences, Professor);
 Moiseyev, I. N. (Candidate of technical sciences); Voronkov, G. M. (Candidate of
 technical sciences); Gurevich, M. R. (Engineer); Voronkov, G. M. (Engineer)

TITLE: Electrochemical transducers for acoustic-signal reception and small-dis-
 placement measurements

SOURCE: Elektrotehnika, no. 3, 1965, 3-5

TOPIC TAGS: electrochemistry, acoustic transducer, acoustics

Abstract: The transducer with two-sided diaphragm (Fig. 1a) is a plastic vessel
 comprising two chambers connected by a channel. The platinum main cathode, cylin-
 drical in shape, is placed in the channel, and the grid electrodes, in the anode
 and cathode chambers. The diaphragm with one-sided diaphragm is also a two-
 chamber plastic vessel (Fig. 1b). This chamber arrangement sharply reduces the
 effects with no loss in sensitivity. Experimentally determined characteristics of
 the acoustic transducers are plotted in Figure 2. The dependence of the transducer
 output current on the signal frequency for various values of static pressure
 is shown in Figure 2a. The frequency range in which the sensitivity of the trans-

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36293-65

ACCESSION NR: AP5007530

ducer to sound pressure is constant increases with increased sound pressure. A drop in sensitivity with an increase in the sound pressure is evident in Figure 2b. Figure 2c shows the dependence of output current on sound pressure. The principal characteristics of the acoustic transducers are as follows: 1) frequency range of linear output (depends on sound pressure), 0.1--3 cps; 2) range of measurable sound pressures, 0.5--20 newton/m²; 3) output current, 10--100 μ amp; 4) weight, including the electrolyte, 50 g. The electrochemical transducer of small mechanical displacements is a plastic vessel with two concentrically arranged diaphragms (Fig. 1b). It has a modified diaphragm arrangement to reduce vibration effects. The dependence of output current on the amplitude of diaphragm displacements at a constant frequency is shown in Fig. 3a; the dependence of output current on the mechanical signal frequency at a constant amplitude, in Fig. 3b. The mechanical-displacement transducer has the following basic characteristics: 1) operational frequency range (depends on the magnitude of diaphragm displacement), 0.1--5 cps; 2) range of measurable displacements, 0.1--10 μ ; 3) output current, 5--6 μ amp; 4) weight, approx 3 g. Ref. art. has: 5 graphs, 4 figures.

Cord 2/6

SOV/3-58-11-13/38

AUTHOR: Voronkov, G.Z., Candidate of Economic Science, Docent

TITLE: We Are Solving Complex Problems of New Engineering and Advanced Technology (Reshayem kompleksnyye problemy novoy tekhniki i peredovoy tekhnologii)

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 11, pp 38 - 40 (USSR)

ABSTRACT: The staff of scientists of the Leningrad Polytechnical Institute has over many years maintained a close liaison with industry. After the 20th KPSS Congress, the institute scientists worked out a long-term plan for scientific research covering the 1956 - 1960 period. This plan foresees the development of over 40 problems in metallurgy, turbine construction, mathematical machines, automation and telemechanics, semiconductors and dielectrics. The institute concluded 35 contracts with the largest Leningrad plants, such as the Metal Plant, the "Elektrosila", "Russkiy Dizel", "Svetlana" and others. These contracts foresee the solution of complex problems in new engineering and advanced technology. The author states particulars of the contract closed with the Metal Plant, and of the help given to the "Svetlana" Plant. With the assistance of the scientists of the institute and

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SOV/3-58-11-13/38

We Are Solving Complex Problems of New Engineering and Advanced Technology

the senior course students, a device was constructed for the Combine "Krasnaya Nit'" which facilitated the work of female laborers, raised the production of rewinding and twisting yarn by 20 - 25 %. At present, the workers of the Chair of Automats and Semiautomatic Machines, in cooperation with workers of the "Vulkan" Plant, have designed a technical project of a cotton wool hackling machine producing 160 kg of cotton wool per hour. The machine will help to double production, and will prevent the air from getting contaminated by dust and fuzz. The author goes on to describe the help rendered to industry by other chairs. The professors V.S. Smirnov, S.V. Usov, T.A. Lebedev, M.N. Bushuyev, Yu.A. Nekhendzi, S.A. Kantor, A.A. Lomakin and others participate in the work of the Engineering-Economical Council of the Leningradskiy sovnarkhoz (Leningrad Sovnarkhoz). Over 100 instructors are members of technical councils of various enterprises and institutions. In 1958, the scientists have concluded over 300 economic contracts, 165 of which are directly connected with installations of the Leningrad sovnarkhoz. The scientists' close contact with industry is considerably promoted by the improved quality of training of specialists. Many large plants in Leningrad, such as

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SOV/3-58-11-13/38

We Are Solving Complex Problems of New Engineering and Advanced Technology

the Kirov, "Elektroapparat", "Krasnyy vybozhets", Metal, Elektrosila, "Svetlana" and others, have become basic plants for a number of chairs. In connection with the plan of re-organization of scientific work, the Chair of Strength of Materials, under the direction of Professor Yu. I. Yagnyy, in cooperation with the Okhtenskiy khimicheskiy kombinat (Okhta Chemical Combine), is studying the chemical properties of plastic materials, particularly polyethylene. The work of Professor M.M. Mikhaylov in the field of insulation and cable engineering is also of scientific and economic interest. He had conducted research on the permeability of polymers, and established their service life. It resulted in the introduction to the cable industry of synthetic material which replaces aluminum, zinc, and other valuable raw products.

ASSOCIATION: Leningradskiy politekhnicheskii institut imeni M.I. Kalinina
(Leningrad Polytechnical Institute imeni M.I. Kalinin)

Card 3/3

VORONKOV, I.

Enthusiast. Voen. znan. 41 no.2:43 F '65.

(MIRA 1813)

YELIN, A.; SEL'YAKOV, I.; VISKIN, S.; LOYKO, N.; BUKHGALTER, B.;
VORONKOV, I.; SPERANSKIY, N.

Improvement of planning in the meat industry. *Mias. ind.*
SSSR 32 no.4:33-37 '61. (MIRA 14:9)

1. Astrakhanskiy myasokombinat (for Yelin).
 2. Kazgipromyas-
omolprom (for Selyakov).
 3. Khar'kovskiy myasokombinat (for
Viskin).
 4. Leninskiy myasokombinat (Kemerovskiy sovnarkhoz
(for Bukhgalter).
 5. Novgorodskiy myasokombinat (for Voronkov).
 6. Buryatskiy sovnarkhoz (for Speranskiy).
- (Meat industry)

VORONKOV, I.

This is what the department of labor organization and wages
should be like. Sots. trud 7 no.10:107-113 0 '62.
(MIRA 15:10)

1. Glavnyy ekonomist Ural'skogo zavoda tyazhelogo mashino-
stroyeniya imeni Sergo Ordzhonikidze.

(Sverdlovsk—Machinery industry—Production standards)

VORONKOV, I.; IVANOV, A.

Technical progress at the Ural Machinery Plant and economy of
labor. Sots.trud 4 no.8:42-47 Ag '59. (MIRA 13:1)
(Ural Mountain region--Machinery industry)

DONTSOV, G., arkhitektor; VORONKOV, I., arkhitektor

State farm villages of the near future. Zhil. stroi. no.8:27-29
'62. (MIRA 15:9)

(Virgin Territory--Rural planning)

FD-2180

USSR/Miscellaneous Voronkov, I. R.

Card 1/2 Pub. 129-20/20

Author : -

Title : Life in Moscow University

Periodical : Vest. Mosk. un., Ser. fizikom. i yest. nauk, 10, No 2, 171-178,
Mar 1955

Abstract : Six brief notices: I. A. Voronkov, "Scientific relations of Moscow Univ. with peoples' democratic countries." N. Filin, "Exhibition on the history of Moscow University." Anonymous "Scientific council of Moscow State U. on the natural sciences." G. I. Rozhkova (head of the chairs) and Ye. I. Motina, "Work of the Chairs of the Russian Language for students and foreign aspirants." Anonymous, "In honor of Prof. N. A. Kachinskiy." O. Kibal'chich, "Defense of dissertations" (The candidate dissertations of the following four were defended at the end of 1954 in the Geographical Faculty: I. F. Antonova, "Power engineering and metallurgy of Canada;" K. P. Kosmachev, "Economic geographical characteristics of agriculture in the region between the rivers Lena and Amga, Yakutsk ASSR;" I. N. Guseva, "Wall maps for the

FD-2180

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course 'Physical Geography of the USSR' in higher school; I. M. Klebanova, "Landscape characteristics of the sandy massif of the Northeastern Prikaspiy (Caspian Region).").

Institution : -

Submitted : -

TOPIC 1A00. Self-Adaptive Control control theory

approach to the design of self-adaptive systems of two types
one method of estimating the parameters

a specified level. The structural diagram of the apparatus is shown

Card

2/5

L 27243-65

ACCESSION NR: AT-003903

ASSOCIATION: None

SUBMITTED: 17Aug64

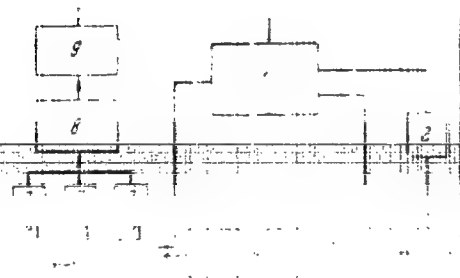
UNCL: 02

State of the Union, II

17 AUG 1964

17 AUG 1964

Fig. 1. Block diagram of self-
acting control system.



1 - Command generator, 2 - time
relay, 3 - gallo, 4 - bias unit,
5 - passage counter, 6 - convert-
er, 7 - memory device, 8 -
logic element, 9 - reversible
actuating unit, 10 - regulator,
11 - regulation, 12 - bias factor.

VORONKOV, I.I.; GAL'TSOV, A.D., inzh., retsenzent

[Organization of labor and wages in a machinery manufacturing plant] Organizatsiia truda i zarabotnoi platy na mashinostroitel'nom zavode. Izd.2., perer. i dop. Moskva, Mashinostroenie, 1965. 287 p. (MIRA 18:3)

Sulfonating β-naphthylamines to obtain the monosulfonic derivatives. I. I. Voronkov.
Anilinozhurnaly Prom. 1931, No. 7, 21-4; *Chem. Zentr.* 1932, 1, 2174.—An investigation of the amts. of 2,6-, 2,7- and 2,8-C₁₀H₇(NH₂)SO₃H formed in the sulfonation of the monohydrate of β-C₁₀H₇NH₂ with oleum.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PHASE I BOOK EXPLOTTATION

SOV/4236

Voronkov, Ivan Ivanovich, and Viktor Nikolayevich Konovalov

Upravleniye proizvodstvom mashinostroitel'nogo zavoda (Production Management in the Machine-Building Plant) Moscow, Mashgiz, 1960. 179 p. Errata slip inserted.
4,500 copies printed.

Reviewer: I. Ya. Kasitskiy, Engineer; Ed.: B.I. Maydanchik, Engineer;
Exec. Ed. (Ural-Siberian Division, Mashgiz): M.A. Bezukladnikov, Engineer;
Tech. Ed.: N.A. Dugina.

PURPOSE: This book is intended for those engaged in production plant management.

COVERAGE: The book deals with production management practices of leading Soviet machine-building plants and socialist principles and methods of supervising production. The structure of plants, shops, departments, and sections and their functions, powers, and responsibilities are analyzed. The organization of the work of the plant director, chief engineer, shop superintendent, section superintendent, and foreman is discussed. The importance of documentation and means of improving plant accounting and record-management systems are studied.

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Production Management in the Machine-Building Plant

SOV/4236

No personalities are mentioned. There are 18 references, all Soviet.

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VORONKOV, L.I.; KARAKOLSKAYA, P.V.; SIDEL'EV, N.P.; NISHANOV, A.N.,
red.

[Practice in the organization of economic work at the
Ural Machinery Plant] Opyt organizatsii ekonomicheskoi
raboty na Uralskikh zavodakh. Moskva, Ekonomika, 1965. 150 p.
(MIRA 18:9)

VORONKOV, I. I.

Technology.

The experience of making popular the work of persons who have revolutionized production at the Ural Machine Plant, Moskva, Mashgiz, 1951.

9. Monthly List of Russian Accessions, Library of Congress, December 1953, Uncl.

VORONKOV, I.I., inzhener, redaktor; DUGINA, N.A., tekhnicheskiiy redaktor.

[Economics and organization of production] Ekonomika i Organizatsiia proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1954. 66 p. (MLRA 8:8)
(Efficiency, Industrial)

VORONKOV, I. I.

"Locating and Mobilizing All Factors for Successful Production." Tr. from the Russians.
Praha, p. 135, Vol. 2, no. 4, 1954.

SO: East European Accessions List, Vol. 3, No. 9, September 1954, Lib. of Congress

VORONKOV, Ivan Ivanovich; NOVIKOV, V.F., inzh.-ekonomist, retsenzent;
DUGINA, N.A., tekhn. red.

[Organization of work and wages in a machinery manufacturing
plant] Organizatsiia truda i zarabotnoi platy na mashino-
stroitel'nom zavode. Moskva, Mashgiz, 1961. 263 p.
(MIRA 15:3)

(Sverdlovsk--Wages--Machinery industry)

VORONKOV, Ivan Ivanovich

VORONKOV, Ivan Ivanovich; ROZENBERG, I.A., kandidat ekonomicheskikh nauk,
redaktor; GAL'TSEV, A.D., retsenzent; DUGJNA, N.A., tekhnicheskij
redaktor

[Work organization and wages in machine building plants] Organi-
zatsiia truda i zarabotnoi platy na mashinostroitel'nom zavode.
Moskva, Gos.nauchno-tekhn. izd-vo mashinostroitel'noi lit-ry, 1955.
214 p. (MLRA 9:1)

(Machinery industry)

VORONKOV, I. I.

The organization of work and the standard of production.
Sots.trud. no.4:86-91 Ap '56. (MLRA 9:11)

1. Nachal'nik otdela organizatsii truda i zarplaty Uralmashzavoda.
(Machinery industry) (Efficiency, Industrial)

VORONKOV, I. I.

Increase the role of labor departments. Sots. trud no. 4:15-18 Ap '57.
(MIRA 10:6)

1. Nachal'nik otdela truda i sarabotnoy platy Uralmashzavoda.
(Labor bureaus)

VORONKOV, Ivan Ivanovich; KONOVALOV, Viktor Nikolayevich; KASITSKIY, I.Ya.,
inzh., retsenzent; MAYDANCHIK, B.I., inzh., red.; DUGINA, N.A.,
tekhn.red.

[Management of a machinery plant] Upravlenie proizvodstvom
mashinostroitel'nogo zavoda. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit.lit-ry, 1960. 179 p. (MIRA 13:2)
(Industrial management)

MALAKHOV, Ivan Kuz'mich; VORONKOV, I.I., retsenzent; RIKBERG, D.B.,
red.; GORNOSTAYPOL'SKAYA, M.S., tekhn. red.

[Organization and planning of production processes in a
machine-shop foreman's area] Organizatsiia i planirovanie
proizvodstva na uchastke мастера механического тсекха.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry,
1962. 136 p. (MIRA 15:3)

(Factory management)

VORONKOV, I. M.

Kurs teoreticheskoi mekhaniki. Izd. 3. Moskva, Gostekhizdat, 1944. 435 p. diagrs.

Course in theoretical mechanics.

DLC: QA805.V93 1944

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

VORONKOV, I. M. "On certain transformations of La Grange equations", Sbornik nauch. trudov Mosk. gosnogo in-ta im. Stalina, Issue 7, 1948, p. 50-53.

SO: U-4393, 19 August 53, (Letopis 'Zhurnal 'nykh Statey', No. 21, 1949).

Voronkov, I. M., Prof.

Functional Analysis

Finding the position of a point corresponding to the smallest value of the sum of the n -th degrees of distances. Nauch. trudy Mosk. gor. inst., No. 8, 1950.

Monthly List of Russian Accessions, Library of Congress, October 1952.
Unclassified.

VORONKOV, I. M.

★ Voronkov, I. M. Some properties of the n -lines of a triangle. *Nomograficheskii sbornik* [Nomicographic collection], pp. 59-65. Izdat. Moskov. Gos. Univ., Moscow, 1951. (Russian)

Consider a triangle ABC and a line through a vertex; this line is called an n -line of the triangle if its point of intersection with the opposite side divides this side in the ratio of the n th powers of the adjacent sides. A triangle has three n -lines, one through each vertex; the n -lines are defined for any real n , in particular for $n=0, 1, 2$ they are the medians, bisectors of the angles, symmedians respectively. The three n -lines are concurrent; let O_n be their point of intersection. The author studies the locus of the points O_n . Denote by a, b, c the sides of the triangle, and assume that $a > b > c$. If there exists an integer k such that $b^2 = ac^{k-1}$, then the locus of the points O_n is an algebraic curve of order k . If $k=2$ this curve is an ellipse, its properties are discussed in some detail. The author also obtains results concerning polygons: if a polygon with n vertices can be inscribed in a circle and if the center of gravity of its vertices is the center of the circumscribed circle then the sum of the squares of all sides and all diagonals equals $n^2 R^2$ where R is the radius of the circumscribed circle. Several references are made to a book by S. I. Zetel' [Modern geometry of the triangle, Uspolniz, Moscow, 1940] which seems to contain some of the proofs not given in the paper. E. Lukacs (Washington, D.C.)

1 - P/W

1
Kok

Voronkov, I. M.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the field of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Voronkov, I. M.	"Course of Theoretical Mechanics" (4th edition, textbook)	Moscow Mining Institute imeni I. V. Stalin

80: W-30604, 7 July 1954

VORONKOV, I.M.

VORONKOV, I.M.; ZHARKOV, D.V., redaktor; TUMARKIN, N.A., tekhnicheskii
redaktor.

[Course in theoretical mechanics] Kurs teoreticheskoi mekhaniki.
Izd. 4., perer. Moskva, Gos. izd-vo tekhniko-tsoret. lit-ry, 1953.
552 p. (MIRA 7:8)
(Mechanics)

VORONKOV, I. M.

VORONKOV, I.M.; ZHARKOV, D.V., redaktor; TUMARKINA, N.A., tekhnicheskii
redaktor.

[Course of theoretical mechanics] Kurs teoreticheskoi mekhaniki.
Izd. 5. stereotipnoe. Moskva, Gos. izd-vo tekhniko-teoret. lit-
ry, 1954. 552 p. (MIRA 7:7)
(Mechanics)

VORONKOV, I. M.

ANDREYEV, S. Ye.; BOKIY, B. V.; GORODETSKIY, P. I.; GREYVER, N. S.; SHCHUKIN, A. A.
GERONT'YEV, V. I.; SKOCHINSKIY, A. A.; TERPIGOROV, A. M.; SHEVYAKOV, L. D.;
SPIVAKOVSKIY, A. A.; VERKHOVSKIY, I. M.; VORONKOV, I. M.; YELANCHIK, G. M.;
KASHIN, N. V.; SLOBODKIN, M. I.; GUZENKOV, F. G.; ZEMSKOV, V. D.; NOVIKOV, F. S.
OSKITSKIY, V. M.; SOSUNOV, G. I.; YASYUKOVICH, S. M.; KHAN, G. A.; POPOV, V. M.

In memory of Professor Levenson. Gor.zhur. no.9:60 S.155.

(MIRA 8:8)

(Levenson, Lev Borisovich, 1878-1955)

VORONKOV, Ivan Mikhaylovich; ROZAL'SKAYA, N.I., red.

[Course in theoretical mechanics] Kurs teoreticheskoi
mekhaniki. Izd.11. Moskva, Nauka, 1964. 596 p.
(MIRA 19:1)

AYZENBERG, Tat'yana Borisovna; VORONKOV, Ivan Mikhaylovich, prof.;
OSETSKIY, Vsevolod, Mikhaylovich; YESHCENKO, H.N., red.

[Manual on the solution of problems in theoretical mechanics]
Rukovodstvo k resheniiu zadach po teoreticheskoi mekhanike.
Moskva, Vysshaia shkola, 1965. 418 p. (MIRA 18:9)

VORONKOV, Ivan Mikhaylovich, prof.; AYZENBERG, Tasya Bentalonovna;
FUFAYEVA, G.I., red.

[Theoretical mechanics; program, methodological instructions and tests for students of correspondence institutions of higher education (scope of the course according to the study plan for 140-160, 180-190 and 200-220 hours)] Teoreticheskaya mekhanika; programma, kratkie metodicheskie ukazaniya i kontrol'nye zadaniya dlya studentov zaочnykh vysshikh uchebnykh zavedenii (ob'em kursa po uchebnomu planu 140-160, 180-190 i 200-220 chasov). Izd.5. Moskva, Vysshaya shkola, 1961. 130 p. (MIRA 17:9)

VORONKOV, I. M. (Moscow)

"A geometrical interpretation of the principle of Gauss".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964.

S/124/61/000/010/004/056
D251/D301

AUTHOR: Voronkov, I.M.
TITLE: Acceleration energy and Appel's equation
PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 10, 1961, 12,
abstract 10 A87 (Nauchn. tr. Mosk. gorn. in-ta,
1959, sb. 29, 41-57)
TEXT: Several theorems are proposed on the geometrical
loci of K nig points of the first and second kind and their turning
motion in a plane, where a K nig point of the second kind is under-
stood to be one, corresponding to which a theorem on acceleration
energy holds similar to K nig's theorem on kinetic energy. The
problem of St. Germain (C.r. Acad. sci. 1901) on the search in a
solid body for a geometrical locus of K nig points of the second
kind in the case of arbitrary motion of a free solid body is solved.
There follow certain classical results of Gauss, Appel and Bolotov;

Card 1/2

S/124/61/000/010/004/056
D251/D301

Acceleration energy...

and a simple mechanical problem is solved with the help of Appel's
equation and Gauss' principle. [Abstracter's note: Complete
translation]

Card 2/2

VORONKOV, I.M., prof.

Equilibrium of a solid body resting on a rough, motionless surface.
Nauch.trudy MGI no.29:5-40 '59. (MIRA 14:4)

(Equilibrium)

VORONKOV, I.M., prof.

Acceleration energy and Appell's equation. Nauch.trudy MGI no.29:
41-67 '59. (MIRA 14:4)

(Mechanics, Analytic)

VORONKOV, I.M., prof.

One property of the resultant of converging forces and several of
its applications. Nauch.trudy MGU no.29:69-85 '59. (MIRA 14:4)

(Mechanics)

AYZENBERG, Tasya Bentsionovna, dots.; VORONKOV, Ivan Mikhaylovich, prof.;
OSETSKIY, Vsevolod Mikhaylovich, dots.; OVSIANNIKOVA, Z.G., red.
izd-va; GOROKHOVA, S.S., tekhn. red.

[Manual for solving problems in theoretical mechanics] Rukovodstvo
k resheniiu zadach po teoreticheskoi mekhanike. 1zd.4. Moskva,
Gos. izd-vo "Vysshaya shkola," 1961. 390 p. (MIRA 14:10)
(Mechanics, Analytic---Problems, exercises, etc.)

VORONKOV, I.M., prof.; GERNET, M.M., prof.; DOBRONRAVOV, V.V., prof.;
KOSMODEM'YANSKIY, A.A., prof.; LOYTSYANSKIY, L.G., prof.;
SVESHNIKOV, G.N., prof.; SLOBODYANSKIY, M.G., prof.; YABLONSKIY,
A.A., prof.; POGOSOV, G.S., dotsent

[Program in theoretical mechanics for majors in machinery
designing, mechanics, instrument designing, electrical engi-
neering, and construction at advanced technical institutions
(220 hours)] Programma po teoreticheskoi mekhanike dlia mashino-
stroitel'nykh, mekhanicheskikh, priborostroitel'nykh, elektro-
tekhnicheskikh i stroitel'nykh spetsial'nostei vysshih tekhnii-
cheskikh uchebnykh zavedenii (220 chasov). Moskva, Gos.izd-vo
"Vysshaya shkola," 1959. 10 p. (MIRA 13:2)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya.
(Mechanics, Analytical)

VORONKOV, Ivan Mikhaylovich, prof.; AYZENBERG, Tasya Bentionovna;
ROZANOVA, G.K., red:izd-va; VORONINA, R.K., tekhn.red.

[Analytical mechanics; program, brief methodological instructions, and control exercises for students of institutions for higher education in nonmechanical subjects by correspondence (with a course extended to 100-120 hours)] Teoreticheskaya mekhanika; programma, kratkie metodicheskie ukazaniya i kontrol'nye zadaniya dlya studentov zaочnykh vysshih uchebnykh zavedenii nemekhanicheskikh spetsial'nostei (s ob'emom kursa po uchebnomu planu 100-120 chasov). Pod red. I.M.Voronkova. Moskva, Gos. izd-vo "Sovetskaya nauka," 1959. 61 p. (MIRA 13:2)
(Mechanics, Analytic--Textbooks)

VORONKOV, I.M., prof.

Pompeius' triangles. Trudy MNI no.7:3-15 '47.
(Triangle)

(MIRA 12-1)

VORONKOV, I.M., prof.

~~_____~~
Certain transformations of Lagrange's equations. Trudy MNI no.7:
15-20 '47. (MIRA 12:1)

(Differential equations)

FINKEL'SHTEYN, Grigoriy Markovich; GOLUBEVA, O.M. (Moskva), prof.,
retsensent; VORONKOV, I.M. (Moskva), prof., retsensent;
DROZHZHIN, Yu.N., red.; TSIRUL'NITSKIY, M.P., tekhn.red.

[Course in theoretical mechanics; a textbook for students of
pedagogical institutes.] Kurs teoreticheskoi mekhaniki; uchebnoe
posobie dlia studentov pedagogicheskikh institutov. Moskva, Gos.
uchebno-pedagog.izd-vo M-vs-prosv. RSFSR, 1959. 442 p.
(Mechanics) (MIRA 12:5)

VORONKOV, I.M.,

BEYLINA, TS.O., inzhener; BLAGONADEZHIN, V.Ye., inzhener; BOGUSLAVSKIY, P.Ye., kandidat tekhnicheskikh nauk; VORONKOV, I.M., professor, GITINA, L.Ya., inzhener; GROMAN, M.B., inzhener; GOROKHOV, N.V., doktor tekhnicheskikh nauk [deceased]; DENISYUK, I.N., kandidat tekhnicheskikh nauk; DOVZHIK, S.A., kandidat tekhnicheskikh nauk; DUKEL'SKIY, M.P., professor, doktor khimicheskikh nauk [deceased]; DYKHOVICHNIY, A.I., professor; ZHITKOV, D.G., professor, doktor tekhnicheskikh nauk; KOZLOVSKIY, N.S., inzhener; LAKHTIN, Yu.M., doktor tekhnicheskikh nauk; LEVENSON, L.B., professor, doktor tekhnicheskikh nauk [deceased]; LEVIN, B.Z., inzhener; LIPKAN, V.F., inzhener; MARTYNOV, M.V., kandidat tekhnicheskikh nauk; MOLEVA, T.I., inzhener; NOVIKOV, F.S., kandidat tekhnicheskikh nauk; OSETSKIY, V.M., kandidat tekhnicheskikh nauk; OSTROUMOV, G.A.; PONOMAREV, Yu.F., kandidat tekhnicheskikh nauk; RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk; REGIERER, Z.L., inzhener; SOKOLOV, A.N., inzhener; SOSUNOV, G.I., kandidat tekhnicheskikh nauk; STEPANOV, V.N., professor; SHEMAKHANOV, M.M., kandidat tekhnicheskikh nauk; EL'KIND, I.A., inzhener; YANUSHEVICH, L.V., kandidat tekhnicheskikh nauk; BOKSHITSKIY, Ya.M., inzhener, redaktor; BULATOV, S.B., inzhener, redaktor; GASHINSKIY, A.G., inzhener, redaktor; GRIGOR'YEV, V.S., inzhener, redaktor; YEGURINOV, G.P., kandidat tekhnicheskikh nauk, redaktor; ZHARKOV, D.V., dotsent, redaktor; ZAKHAROV, Yu.G., kandidat tekhnicheskikh nauk, redaktor; KOMARKOV, KAMINSKIY, V.S., kandidat tekhnicheskikh nauk, redaktor; Ye.F., professor, redaktor; KOSTYLEV, B.N., inzhener, redaktor; POVAROV, L.S., kandidat tekhnicheskikh nauk, redaktor; ULINICH, F.R., redaktor; KLORIK'YAN, S.Kh., otvetstvennyy redaktor; GIADILIN, L.V., redaktor;

(Continued on next card)

HEYLINA, TS.O. --- (continued) Card 2.

RUPPENYIT, K.V., redaktor; TERPIGOREV, A.M., glavnyy redaktor;
BARABANOV, F.A., redaktor; BARANOV, A.I., redaktor; BUCHHEV, V.K.,
redaktor; GRAFOV, L.Ye., redaktor; DOKUKIN, A.V., redaktor; ZADEWEL-
KO, A.N., redaktor; ZASYAD'KO, A.F., redaktor; KRASNIKOVSKIY, G.V.
redaktor; LETOV, N.A., redaktor; DISHIN, G.L., redaktor; MAN'KOV-
SKIY, G.I., redaktor; MEL'NIKOV, H.V., redaktor; ONIKA, D.G.,
redaktor; OSTROVSKIY, S.B., redaktor; POKROVSKIY, H.M., redaktor;
POLSTYANOV, G.N., redaktor; SKOCHINSKIY, A.A., redaktor; SONIN,
S.D., redaktor; SPIVAKOVSKIY, A.O., redaktor; STANCHENKO, I.K.,
redaktor; SUDOPLATOV, A.P., redaktor; TOPCHIEV, A.V., redaktor;
TROYANSKIY, S.V., redaktor; SHEVYAKOV, L.D., redaktor; BYKHOV-
SKAYA, S.N., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnichesk-
skiy redaktor; PROZOROVSKAYA, V.L., tekhnicheskii redaktor.

[Mining; an encyclopedic handbook] Gornoe delo; entsiklopedicheski
spravochnik. Glav.red. A.M. Terpigorev. Chleny glav.red. F.A. Bara-
banov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po ugol'noi
promyshl. Vol.1. [General engineering] Obshchie inzhenernye
svedeniia. Redkollegiia toma S.Kh.Klorik'ian i dr. 1957. 760 p.
(Mining engineering) (MIRA 10:10)

VORONKOV, I.M., prof.

General method of calculating kinematic coefficients of mine
hoisting. Nauch. trudy MGU no.15:17-29 '55. (MIRA 10:10)
(Machinery, Kinematics of)
(Mine hoisting)

VORONKOV, I.M., professor

Determining the angle of inclination of a rectilinear brachystochrone
considering friction. Nauch.trudy MGI no.17:5-10 '56 (MIRA 10:11)
(Mining engineering)

VORONKOV, IVAN MIKHAYLOVICH

VORONKOV, Ivan Mikhaylovich; ZHARKOV, D.V., red.; AKHLAMOV, S.N., tekhn.red.

[A course in theoretical mechanics] Kurs teoreticheskoi mekhaniki.
Izd. 7-oe, dop. Moskva, Gos.izd-vo tekhniko-teoret. lit-ry, 1957.
596 p. (MIRA 11:2)

(Mechanics)

VORONKOV, I. S.; SKOMOROSHKIN, A. F.

Bearings (Machinery)

PAV-1 automatic polishing machiner. Podshipnik No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

VORONKOV, I. S.; SKOMOROSHNIKIN, A. F.

Grinding and Polishing

PAV-1 automatic polishing machine. Podshipnik No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Uncl.

1ST AND 2ND SERIES

SUCCESSORS AND PROPERTIES ABOVE

22

ca

Hydrogenation in the petroleum industry. B. Vinnikov. *Neft* 6, No. 20, 7-10(1935).—A review of Russian research carried out with the destructive hydrogenation of petroleum and the stabilization and refining of petroleum distillates. A. A. Bozhilnik

ASB-ELA METALLURGICAL LITERATURE CLASSIFICATION

RESEARCH SYMBOLISM

SYMBOLS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000

VORONKOV, I.A., inzh.

Comparative analysis of centralized-control devices with scanning and continuous channels. Priboroostroenie no.7:1-4 J1 '65. (MIRA 13:7)

VORONKOV, L.A., inzh; MITROFANOV, I.M., kand. tekhn. nauk; FILYUNIN, G.I.,
inzh.

Regulation of a double-shaft gas-turbine system according to the
traction characteristics of the locomotive. Trudy TSNII MPS no.282:
96-104 '64. (MIRA 17:10)

SCV/119-58-9-5/19

AUTHOR: Voronkov, L. A., Engineer

TITLE: ~~AN ECONOMICAL METHOD OF LINEARIZING THE SCALES OF SELF-BALANCING INSTRUMENTS~~ An Economical Method of Linearizing the Scales of Self-Balancing Instruments (O ratsional'nom metode linearizatsii shkal avtomaticheskikh priborov uravnoveshivaniya)

PERIODICAL: Pribostroyeniye, 1958, Nr 9, pp. 12-15 (USSR)

ABSTRACT: Self-balancing compensation instruments are used in engineering practice for measuring and recording low voltages and direct-current e.m.f.'s, voltages or current resulting from all types of transducers. In particular these instruments are used for measuring and recording various nonelectric quantities which have been converted into electric ones by the transducer. In the latter case it is of particular importance to obtain a linear dependence between the nonelectric quantity to be measured and the electric instrument reading. For this purpose a linearization of scales is often used. It is shown in theory how the limits of error, and the most favorable parameter values for self-balancing compensation instruments having linearized scales can be determined. By means of the formulae given, the error of the instrument can also be

Card 1/2

An Economical Method of Linearizing the Scales
of Self-Balancing Instruments

SOV/110-58-9-5/3

computed in case the linearizing of the scale has been
inaccurate.
There are 2 fig. Soviet reference.

Card 2/2

VORONKOV, L.A.

Analyzing compensating measuring voltage (EMF) and current
diagrams. [Trudy] IO NTO Priborprom no.4:51-55 '59.
(MIRA 13:2)

(Electric measurements)

E 3090-66 EWT(d)/EEC(k)=2/EEB-2
ACCESSION NR: AP5018212

UR/0119/65/000/007/0001/0004
658.562:681.17:621.3.088

AUTHOR: Voronkov, L. A. (Engineer)

TITLE: Comparing the scanning-channel and continuous-channel centralized-control systems

SOURCE: Priborostroyeniye, no. 7, 1965, 1-4

TOPIC TAGS: telemetry technique, automatic control theory

ABSTRACT: Indices describing these system parameters are developed: probability of faultless operation of one channel, same of the entire system, power consumption, weight and size, labor required for equipment manufacture, cost of materials. Formulas describing the above indices permit selecting the type of supervisory (telemeter) system at the earliest stage of planning, on the basis of the generally-formulated technical task. Maximum number of operations of ten Soviet-made relays is given. Orig. art. has: 3 figures, 17 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

NO REF SOV: 005

Card 1/1 *def*

ENCL: 00

OTHER: 000

SUB CODES: EC, DR

VORONKOV, L.A., inzhener.

Designing compensating measuring circuits for automatic instruments.
(MIRA 10:9)
Priboroostroenie no.7:8-14 J1 '57.
(Electric measurements)

VORONKOV, L.A.

~~Automatic electronic potentiometers~~
Automatic electronic potentiometers (compensators) and balanced bridges.
[Izd] Sekts. prib. tepl. kontr. LONITOPRIBOR no.1:6-26 '53. (MIRA 8:7)
(Potentiometer)

TITOV, B.M., dotsent; VORONCHIKHIN, V.M., inzh.; TIMOFEEV, V.A., inzh.;
UDUT, V.S., inzh.

Results of investigating the main fans in Kuznetsk Basin mines.
Izv. vys. ucheb. zav.; gor. zhur. no.10:165-168 '60.(MIRA 13:11)

1. Tomskiy ordena Trudovogo Krasnogo Znameni politekhnicheskii
institut imeni S.M.Kirova. Rekomendovana kafedroy gornoy mekhaniki
Tomskogo politekhnicheskogo instituta.
(Kuznetsk Basin—Mine ventilation)
(Fans, Electric)

KRYUKOV, Aleksey Dmitriyevich; VORONKOV, K.N., inzh., ratsenzent; POLYA-
CHENKO, V.A., inzh., ratsenzent; NOSOV, N.A., kand. tekhn. nauk,
red.; FOMICHEV, A.G., red. izd-va; BARDINA, A.A., tekhn. red.

[Thermal analysis of motor vehicle transmissions] Teplovoi raschet
transmissii transportnykh mashin. Moskva, Gos.nauchno-tekhn. izd-
vo mashinostroit. lit-ry, 1961. 139 p. (MIRA 14:6)
(Motor vehicles--Transmission devices)

BALTKAYS, Ya. [Baltkajs, J.]; VORONKOV, M.; ZELCHAN, G. [Zelcans, G.]

Atranes. Izv. AN Latv. SSR no. 2:102-106 '64. (MIRA 17:4)

1. Rihzakiy meditsinskiy institut i Institut organicheskogo sinteza
AN Latvyskoy SSR.

VORONKOV, M. G.

M. G. Voronkov and B. L. Gol'shtein - "Study of the reaction of sulphur with unsaturated compounds. VI. Synthesis of the isomeric z-phenyl thiotolenes." (p. 1218)

SC: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1920, Vol. 20, No. 7.

117 AND 120 EXPLOS

PROCEDURES AND REAGENTS INDEX

7

Determination of vinyl alkyl ethers by hydrolytic oxidation. *Zh. Obshch. Khim.* (Leningrad State Univ.), *Zhur. Anal. Khim.* 1, 218-23 (1946).--The method is based on hydrolyzing the ether with an excess of an aq. soln. of $\text{NH}_4\text{OH} \cdot \text{HCl}$. By hydrolysis AcH is liberated and forms an oxime with liberation of HCl which can be titrated with bromophenol blue as indicator. To a sample contg. 0.002-0.006 g. mol. of vinylalkyl ether, add 25 ml. of 0.5 N $\text{NH}_4\text{OH} \cdot \text{HCl}$. Allow to stand for 1-2 hrs. with occasional shaking. Keep 7-10 min. at 60°C with frequent shaking. Add 3-4 drops of indicator and titrate with 0.5 N NaOH . If AcH or other esters are present, is present first add 10-20 ml. of 0.1 N NaOH and 25 ml. 0.5 N $\text{NH}_4\text{OH} \cdot \text{HCl}$. Shake for several min., add

COMMON ELEMENTS

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COMMON ELEMENTS		COMMON VARIABLES	
<p>CH</p> <p>Determination of copper in its acetylide. Volumetric method for determination of acetylene and copper. M. G. Voronkov. Zhur. Anal. Khim. 1, 254-6 (1940). This method is based on reducing Cu^{++} to Cu^+ with NH_4OH, pptg. Cu_2C_2, decompg. the ppt. with HNO_3, and detg. Cu volumetrically. To det. Cu, place 20 ml. of a 5% $CuSO_4$ soln. into a 150-ml. glass-stoppered Erlenmeyer, add 10 ml. of 6 N NH_4OH and 10 ml. of a 20% soln. of $NH_4OH-HCl$. Add quickly a measured vol. of H_2O and, with Cu, at 0° at 700 mm. Hg. Stopper the flask and shake for 2-3 min. Filter, wash twice with 2% NH_4OH soln., and twice with H_2O. Decomp. the moist acetylide with 10 ml. hot dil. HNO_3, boil to expel nitrous vapors, add 10 ml. of a soln. contg. 100 g. urea, 1.5 g. $Pb(NO_3)_2$, and 2 ml. concd. HNO_3 in one l.; shake well until the mixt. is at room temp. Add 10 ml. of 10% KCN and 1 ml. of 10% KI, shake, and titrate with 0.1 N $Na_2S_2O_3$ soln. Standardize the $Na_2S_2O_3$ against electro-lytic Cu (cf. Köhnel-Hagen, C.A.B., 6748). M. Hoesli</p>		<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>	
<p>FROM SYNTHESE</p>		<p>FROM SYNTHESE</p>	
<p>FROM SYNTHESE</p>		<p>FROM SYNTHESE</p>	

VORONKOV, N. G.

The Leningrad State Univ. rewarded with the Order of Lenin., (-1946-)

"A Quantitative Determination of the Vinylalkyl Ethers by the Method of Hydrolytic Oxidation,"

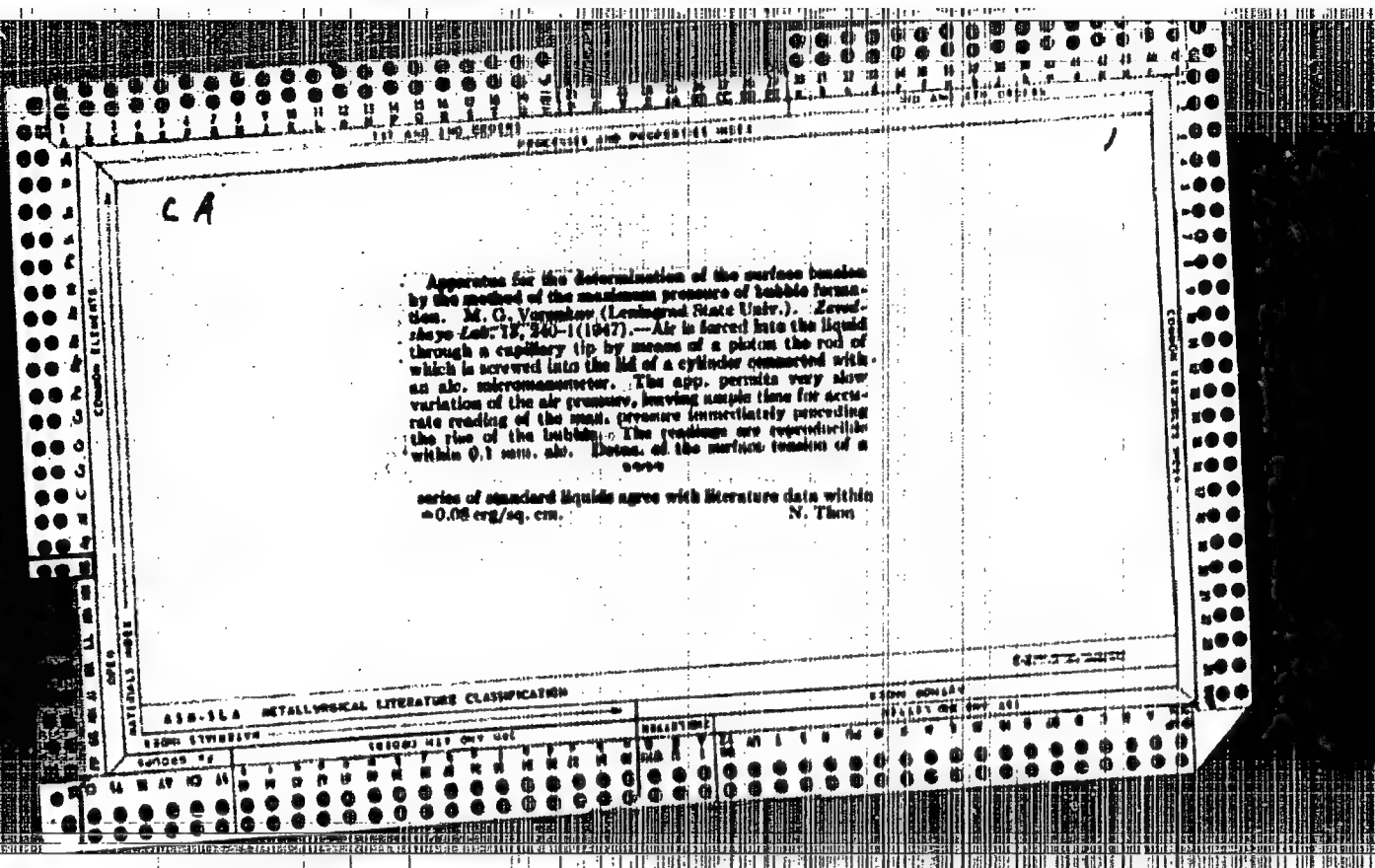
Zhur. Analit. Khim., No. 4, 1946.

VORONKOV, M. G.

Leningrad State Univ. rewarded with the Order of Lenin., (-1946-)

"Estimation of Copper in its Acetilenide, Volumetric Method of Estimation of Acetylen and Copper,"

Zhur. Analit. Khim., No. 5-6, 1946



CA

Reaction of sulfur with unsaturated compounds. I.
 New synthesis of 3-phenylthiophene and its homologs.
 A. S. Brown and M. G. Voronkov (Leningrad State Univ.). *J. Gen. Chem. (U.S.S.R.)* 17, 1163-70 (1947) (in Russian).—A review (33 references) precedes an extensive study of reactions of S with unsatd. compds. MeEtC(OH)Ph was prepd. by the Grignard reaction from PhAc ; the crude alc. in Et_2O after decompn. of the complex with 10% HCl was not distd., but, after removal of the Et_2O , was treated with a crystal of iodine and heated with distn. of the H_2O to yield 65% α,β -dimethylstyrene, b_p 63-4°, b_m 188-90°, b_s 54-6°, d_4^{20} 0.9102, n_D^{20} 1.5320, n_D^{25} 1.5315, n_D^{27} 1.5484. This (23 g.) and 16 g. S in a flask provided with a reflux condenser attached to an absorption tube with 75 cc. 35% NaOH were heated to 265° 7 hrs. with much H_2S evolution (total, 10 g.). Distn. gave 44% crude 3-phenylthiophene, b_p 115-30°; steam distn. raises the yield to 80-1% and the product is isolated by addn. of 75% EtOH to the distd. oil; sublimation gave a pure product, m. 91.5-2° b_m 254-6°; gives a deep blue indophenol reaction with latin sulfate soln., a red color with H_2SO_4 , and a white curdy ppt. with Hg(OAc)_2 . 1,2,3-Trimethyl-1-phenylethylene, b_m 180.3-01.3°, b_p 80-2°, d_4^{20} 0.8975, n_D^{20} 1.5153, n_D^{25} 1.5204, n_D^{27} 1.5358, was prepd. conventionally from Me(iso-Pr)C(OH)Ph by the dehydration method given above; the yield was 43-8% when $(\text{CO}_2\text{H})_2$ was used for dehydration; iodine gave lower yields. This (52.6 g.) and 35 g. S, reacting as above, gave 2 fractions: 13 g., b_p 40-100°, and 27.5 g., b_p 101-6°. Each was shaken with Hg in Et_2O to remove free S, then distd. to give 36% 3-methyl-4-phenylthiophene, b_m 256.3-6.6°, b_p 110-10.5°, d_4^{20} 1.1160, n_D^{20} 1.6080, n_D^{25} 1.6160, n_D^{27} 1.6337, does not freeze at -26°, given a blue-green color with latin sulfate and a yellow-orange color with H_2SO_4 . The thiophene ring in these cases is formed through intramol. ring closure through S, with a diene intermediate.
 G. M. Kosolapov

VORONKOV, M. G.

PA 64T36

USSR/Chemistry - Synthesis
Chemistry - Phenylthiophene

Jan 1948

"Study of the Reaction of Sulfur With Unsaturated Compounds: II, Synthesis of Beta-Phenylthiophene and Its Homologs," M. G. Voronkov, A. S. Proun (Deceased), Chair of Org Chem, Leningrad State Order of Lenin U, 64 pp

"Zhur Obshch Khim" Vol XVIII (LXXXI), No 1

Show that as result of the reaction of 2-methyl-3-phenylbutadiene-1.3 and sulfur there is formed beta-phenyl-beta'-thiotolene. There is also the possibility of forming beta-phenylthiophene from the action of sulfur on di-butylbenzole. Submitted 23 Dec 1946.

64T36

Behavior of 3-bromofuranidine in the Grignard reaction.

I. Yu. K. Voronkov, M. G. Voronkov, I. P. Grigorov, and G. Ya. Kondrat'eva. *Zh. Obshch. Khim.* (J. Gen. Chem.) 18, 1801-10 (1948). cf. following abstr.—g. Halofuranidines (3-halotetrahydrofurans) react with Mg only sluggishly, yielding mixed organo-Mg compds. which rearrange to a great extent, with ring opening, to give MgX deriva. of γ -unsatd. primary alcs. and react only to a minor extent as true Grignard reagents. Use of Na in place of Mg results in complete rearrangement and ring opening. 3-Bromofuranidine (75 g.) in Et₂O was added to 12 g. Mg (activated by iodine) in 200 ml. Et₂O over 10 hrs. with stirring and boiling, let stand overnight, heated 2 hrs., treated with 67 g. allyl bromide in Et₂O, boiled 1 hr., and products from which were recovered 6 g. allylcarbinol, b.p. 113.5-14.5°, d_4^{20} 0.8454, n_D^{20} 1.4227; 3.5 g. 3-allylfuranidine, b.p. 140.5-41°, d_4^{20} 0.8826, n_D^{20} 1.4440; and 40 g. unchanged starting material. 1-Penten-4-ol, b.p. 114.5-16°, d_4^{20} 0.8314, n_D^{20} 1.4245, was obtained in 57% yield from C₁₁H₁₅MgCl and AcH; this (95 g.) in CHCl₃ was treated with 60 g. Br in CHCl₃ with cooling and, after evapn., the crude dibromide was shaken 28 hrs. with 20 g. powdered KOH in Et₂O, with addn. of 20 g. KOH every 4 hrs., to yield 45% 2-methyl-4-bromofuranidine, b.p. 64-65°, d_4^{20} 1.4231, n_D^{20} 1.4570. This (82 g.) was slowly added to 12 g. Mg in Et₂O at reflux, heated 2.5 hrs., let stand overnight, and treated as above to yield 28% 1-penten-4-ol and 1.5 g. 2,2'-dimethyl-4,4'-bifuranidine, b.p. 101-102°, d_4^{20} 0.9656, n_D^{20} 1.4553. If the reaction mixt. with Mg is decoupled by dil. acid prior to addn. of allyl bromide, the products include (low yields): 2-methylfuranidine, b.p. 79-80°, d_4^{20} 0.8576, n_D^{20} 1.4092; the above-described bifuranidine, and 27% 1-penten-4-ol. Addn. of 38 g. 3-bromofuranidine to a dry Et₂O soln. of MgBr₂ (obtained in anhyd. state from 12.1 g. Mg and 95 g. BrCH₂CH₂Br) yields a bulky ppt.; heating 20 hrs. and decoupling by H₂O gave 30 g. unchanged starting material and traces of lower- and higher-boiling materials, which were not identified. Addn. of 38 g. 3-bromofuranidine to 23 g. Na in Et₂O, and 4 hrs. refluxing gave 80% 1-penten-4-ol, b.p. 112.5-13.5°, d_4^{20} 0.8449, n_D^{20} 1.4232.

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Studying the reaction of sulfur with unsaturated compounds. Report.
no.4. Nauch.biul.Len.un. no.21:8-11 '48. (MIRA 10:3)

1. Kafedra organicheskoy khimii.
(Chemical reactions) (Sulfur)

Surface tension and parachors of vinyl alkyl ethers.
M. G. Voronkov. *Zhur. Fiz. Khim.* (J. Phys. Chem.) 22, 975-8 (1948).—In the following, the first datum refers to b.p. at 760 mm. Hg. the second to d_4^{20} , the 3rd to n_D^{20} , and the 4th to surface tension at 20° detd. by the max. bubble-pressure method (cf. C.A. 42, 2222): vinyl ethyl ether 37.72°, 0.7681, 1.37667, 19.000; isopropyl vinyl ether 55.54–55.65°, 0.7684, 1.36478, 18.72; propyl vinyl ether 65.00°, 0.7674, 1.36064, 20.63; isobutyl vinyl ether 82.96°, 0.7681, 1.36654, 21.64; butyl vinyl ether 93.82°, 0.7792, 1.40168, 21.96; isooctyl vinyl ether 112.4–113.6°, 0.7826, 1.40726, 22.46; heptyl vinyl ether (the heptyl radical is not specified) 143.5–148.7°, 0.7993, 1.4173, 24.88; heptyl vinyl ether (a nonspecified heptyl) 169.3–169.6°, 0.8031, 1.4220, 25.45; ethyl propenyl ether (probably a mixt. of stereoisomers) 69.1–69.4°, 0.7756, 1.39802, 21.44; ethyl 2-methylpropenyl ether (probably a mixt. of stereoisomers) 94.9–95.3°, 0.7761, 1.40627, 22.00. The parachors P calcd. according to Gilling (C.A. 39, 3086), if the group value for (C):CH₂—(C) is assumed to be 33.5, agree with the expd. results. The mol. refraction is 0.1175 ($P = 12.4$) for the ethers studied.
J. J. Bikerman

VORONKOV, M. G.

Iu. K. Inr'ev, M. G. Voronkov, I. P. Gragerov and G. Ia. Kondrat'eva, The reaction of β -bromo-furanidine with the Grignard Reagents. I. p. 1804

The tetra-hydro-furane-halides in which a halogen atom is in a β position to an oxygen atom, reacts with the Grignard reagent to form very sluggishly mixed magnesium-organic compounds which for the most part rearrange with the opening of the cycle into magnesium-halide-alcoholates of γ -unsaturated primary alcohols and react in a small part on the normal type as Grignard reagent.

The Lomonosov State University in Moscow, Holder of the Lenin Order
The Zelinskii Lab. of Organic Chem., September 22, 1947

SO: Journal of General Chemistry (USSR) 28, (80) No. 10 (1948):